National Institute of Environmental Health Sciences

Assessing the impact of climate change on vector-borne viruses in the EU through the elicitation of expert opinion

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Abstract:

Expert opinion was elicited to undertake a qualitative risk assessment to estimate the current and future risks to the European Union (EU) from five vector-borne viruses listed by the World Organization for Animal Health. It was predicted that climate change will increase the risk of incursions of African horse sickness virus (AHSV), Crimean-Congo haemorrhagic Fever virus (CCHFV) and Rift Valley fever virus (RVFV) into the EU from other parts of the world, with African swine fever virus (ASFV) and West Nile virus (WNV) being less affected. Currently the predicted risks of incursion were lowest for RVFV and highest for ASFV. Risks of incursion were considered for six routes of entry (namely vectors, livestock, meat products, wildlife, pets and people). Climate change was predicted to increase the risk of incursion from entry of vectors for all five viruses to some degree, the strongest effects being predicted for AHSV, CCHFV and WNV. This work will facilitate identification of appropriate risk management options in relation to adaptations to climate change.

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Resource Description

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Health Professional, Policymaker, Researcher

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Food/Water Quality, Food/Water Security, Temperature

Food/Water Quality: Pathogen

Food/Water Security: Livestock Productivity

Temperature: Fluctuations

Geographic Feature: ☒

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☒

resource focuses on specific location

Non-United States

Non-United States: Europe

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Vectorborne Disease

Vectorborne Disease: Mosquito-borne Disease, Tick-borne Disease

Mosquito-borne Disease: Rift Valley Fever, West Nile Virus

Tick-borne Disease: Crimean-Congo Haemorrhagic Fever

Mitigation/Adaptation: ☒

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type: ☒

format or standard characteristic of resource

Research Article

Timescale: ☒

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☒

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content